ADDITIONAL SHEET

CCR#: 04-0547   **Rev:** —   **Originator:** Danny Huang
Telephone: 301-925-0837   **Office:** 3014C
Title of Change: Deliver Tomcat 4.1.24 configuration patch 03 as a COTS TE to NSIDC for Synergy

This delivery is a configuration update for the Tomcat 4.1.24 COTS product at all sites. It includes the following tar file:

Checksum	Size	Filename
3308677939	5312	tomcat4.1.24_config_patch_v03a.tar.gz

The patch fixes the NCRs identified in the list and table below:

- NCR 41083: TSx modes cannot be accessed by external internet users after implementing the tomcat 4.124 config patch 02. DAACs still need the TSx modes to be accessed from the outside firewall by selected users. The mod_jk.conf file has been modified to set up the multiple virtual hosts to hold different modes. Each mode uses a different port number. Also, Tomcat Web Application Manager now uses a private port number to manage all web applications in the host. See Step 9 in the following installation instructions to find the details about how to use Tomcat Web Application Manager.

- NCR 41203: the passwords for Tomcat Web Application Manager need to be encrypted. The MD5 is now used to encrypt passwords.

- NCR 40619: remove the unnecessary /examples directory from /webapps in Tomcat 4.1.24.

NCR Number	Subsystem	Sev	State	Site	Description
ECSed41083	COTS	3	T	NSIDC	7.0.1 OPS DPL External Access to TS1 required
ECSed41203	COTS	3	T	EDF	Tomcat Web Manager Needs a Secure Authentication
ECSed40619	COTS	3	T	EDC	/examples section should be eliminated

Tomcat 4.1.24 configuration patch 03 is to be installed on the following machines:

Site	Host Name	Subsystem	Host Function
LPDAAC	e0dps01	DPL/HEG	Data Pool Web Server
GSFC	g0dps01	DPL/HEG	Data Pool Web Server
LaRC	l0dps01	DPL/HEG	Data Pool Web Server
NSIDC	n0dps01	DPL/HEG	Data Pool Web Server

This Tomcat patch was tested successfully in the PVC. (See test results below.)

       ECS/EMD

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INSTALLATION INSTRUCTIONS
for Tomcat 4.1.24 configuration patch 03

Use the following procedures to install Tomcat 4.1.24 configuration patch v03.

Prerequisites

1. Tomcat 4.1.24 on the target Data Pool SUN machines.

2. Apache 1.3.29 on the target Data Pool SUN machines.

3. The delivery tar file, tomcat4.1.24_config_patch_v03.tar.gz (Checksum: 3308677939, Size: 5312) is in a staging directory accessible by the Data Pool machine.

4. Set up the firewall rules to accept authenticated requests on Web Access's TS1 and TS2 ports (refer to 910-TDA-002 redlines attached)

5. Estimated installation time: 30 minutes for a novice operator.

Uninstall Instructions

None

Installation Instructions

1. Logon to Data Pool machine as root

2. Back up affected files and directories to a backup directory:

```
# cd /usr/ecs/OPS/COTS/tomcat-4.1.24_datapool ↵

# mkdir tomcat4_config_patch_v02_backup ↵

# cd tomcat4_config_patch_v02_backup ↵

# cp ../conf/server.xml . ↵

# cp ../conf/tomcat-users.xml . ↵

# cp ../conf/auto/mod_jk.conf . ↵
```

Important: Use "mv" instead of "cp" to backup the following directories:

```
# mv ../webapps/examples . ↵

# mv ../modjk_config_for_DPL . ↵
```

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3. Unpack the tar file into Tomcat 4.1.24's home directory

    ```
    # cd /usr/ecs/OPS/COTS/tomcat-4.1.24_datapool ↵
    ```

    ```
    # cp <stagingdir>/tomcat4.1.24_config_patch_v03.tar.gz . ↵
    ```

    ```
    # gunzip -c tomcat4.1.24_config_patch_v03.tar.gz | tar xvf - ↵
    ```

    This overwrites the server.xml file, tomcat-users.xml, and modjk_config_for_DPL directory and places all mod_jk.conf.<site> files under this directory.

4. Ensure the access permissions of directory "conf" is 775 <u>and </u>ownership is root:cmshared.

    ```
    # ls -l ↵
    ```

5. Replace the mod_jk.conf file that your Tomcat presently uses with the contents of an appropriate file from the new modjk_config_for_DPL subdirectory. The correct source file is the one whose name reflects your site. The target file must be re-named "mod_jk.conf".

    ```
    # cd /usr/ecs/OPS/COTS/tomcat-4.1.24_datapool ↵
    ```

    ```
    # cd modjk_config_for_DPL ↵
    ```

    ```
    # cp mod_jk.conf.<site> ../conf/auto/mod_jk.conf ↵
    ```
    (e.g. cp mod_jk.conf.pvc ../conf/auto/mod_jk.conf ↵)
    ```
    # chmod 644 ../conf/auto/mod_jk.conf ↵
    ```

6. Remove the /examples directory that was installed with the original Tomcat delivery (if it still exists):
    ```
    # cd /usr/ecs/OPS/COTS/tomcat-4.1.24_datapool/webapps ↵
    ```
    ```
    # rm -r examples  ↵
    ```

7. Stop Apache 1.3.29 and Tomcat 4.1.24.

    ```
    # cd /etc/init.d ↵
    ```

    ```
    # ./apache-1.3.29_datapool_OPS stop ↵
    ```

    ```
    #./tomcat4_datapool_OPS stop ↵
    ```

8. Start the Tomcat 4.1.24 and Apache 1.3.29.

    ```
    # cd /etc/init.d ↵
    ```

```
#./tomcat4_datapool_OPS start ↵

# ./apache-1.3.29_datapool_OPS start ↵
```

9. Tomcat Web Application Manager can be used to list, start, stop, install, reload, and remove web applications on the host without stopping Tomcat and affecting all modes. It can be accessed (from the inside firewall only) by

   a. Open a browser and access the Tomcat Web Application Manager by typing the following URL Address:
   `<host>.<site>b.ecs.nasa.gov:<private port number>/manager/html`

   Note: The private port number can be found in 910-TDA-002, Software Port Mapping.

   b. When the login window pops up, type in the username and password. The users and passwords delivered in this patch are the same as what was delivered in the original Tomcat 4.1.24 release, except the password has been encryted.

   c. If the system responds that password is invalid, you can change the encrypted password by using the procedure specified in file "`/usr/ecs/OPS/COTS/tomcat-4.1.24_datapool/conf/tomcat-users-password-change-howto.txt`". The file is installed as part of this patch.

Custom Code Integration

Ensure the value of httpHost and webglisHost in EcDIWebaccess.properties has been set as *<host>u.ecs.nasa.gov*.

This value can be set by running the following steps:

   a. Reset the value of ${HTTPHOST} in **each TSx mode**:

   - Use ECS-Assistant to set the value of ${HTTPHOST} to *<host>u.ecs.nasa.gov*

   This will ensure two parameters, EcDlWebAccess httpHost and webglisHost in EcDIWebaccess.properties, are properly re-configured to allow access to the Java Applet page (Globe search page) in Datapool drill down from outside the firewall in TSx modes.

   For OPS, the value of ${HTTPHOST} should already be set as *<host>u.ecs.nasa.gov*, which allows access to the Globe search page in OPS from outside the firewall.

   b. Restart tomcat: Tomcat 4.1.24 has to be stopped and then started because the Tomcat server can pick up the update value of ${HTTPHOST} only by stopping and then starting Tomcat 4.1.24.

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Note: The private port does not support Java Applet page (Globe search page) in Data Pool drill down because:

   a. The "Globe" can be accessed only from outside firewall using *<host>u.ecs.nasa.gov* based on the value of ${HTTPHOST} and

   b. The private port can be accessed only from inside the firewall.

But this page can be accessed from all of the OPS port, TS1 port, and TS2 port using *<host>u.ecs.nasa.gov*.

Interrogation Checkout

Execute the following to ensure that Tomcat 4.1.24 config patch 03 is installed correctly:

```
# /usr/bin/cat /usr/ecs/OPS/COTS/tomcat-
4.1.24_datapool/conf/auto/mod_jk.conf | grep patch | head −1 |
cut −c2-32 ↵
```

It should return: "Tomcat4.1.24 config patch v03".

Back-Out Instructions

Execute the following steps in case you need to remove this patch:

1. Stop Tomcat 4.1.24 and the Apache 1.3.29 that is using it:

   ```
   # /etc/init.d/tomcat4_datapool_OPS stop ↵
   ```

   ```
   # /etc/init.d/apache_datapool-1.3.29_<MODE> stop ↵
   ```

2. Change directory to Tomcat 4.1.24 home.

   ```
   # cd /usr/ecs/OPS/COTS/tomcat-4.1.24_datapool ↵
   ```

3. Restore directory modjk_config_for_DPL from backup.

4. Restore directory examples from backup.

5. Restore file tomcat-users.xml from backup.

6. Restore file server.xml from backup.

7. Restore file mod_jk.conf from backup.

8. Restart Apache and Tomcat 4.1.24

   ```
   # /etc/init.d/tomcat4_datapool_OPS start ↵
   ```

   ```
   # /etc/init.d/apache-1.3.29_datapool_OPS start ↵
   ```

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Test Procedures and Test Results

Date(s) of Test: 10/xx/2004

Title: Test Plan For NCR# 40811

Test Engineer: **Site:** PVC and EDF

OBJECTIVE: The purpose of this test is to verify that the tomcat and the web access still function properly after the tomcat-mod_jk.conf and EcDlWebaccess.properties files have been changed (see ncr#40811).

INITIALIZATION: All necessary hardware, servers, GUIs, and workstations are up and operational.

APPROACH: Sections may be done in any order. It is assumed that users are familiar with the system. For new or difficult functions, additional action/response detail may be included or attached.

KEY: P = Pass; F = Fail; NT = Not Tested, #FW = # Of Firewall

#	Test Item/Section Heading	Expected Results	P	F	NT
1.	Verify that accesses to the DPL Web Access from inside and outside of PVC lab **using "u' interface** for TS1 and TS2 modes are successful only on the ports designated for TS1 and TS2. Access the DPL Web Access for TS1 and TS2 modes from outside of PVC lab using: - TS1: p2dps01u.ecs.nasa.gov:\<TS1 Port#\>/\<MODE\>/home - TS2: p2dps01u.ecs.nasa.gov:\<TS2 Port#\>/\<MODE\>/home. Display the globe on spatial search page from inside and outside of PVC lab for TS1 and TS2 modes using the above URLs.	-The access to the DPL Web Access from **inside** PVC lab for TS1 and TS2 modes is successful. -The access to the DPL Web Access from **outside** PVC lab for TS1 and TS2 modes is successful. -The globe is displayed correctly on spatial search page from **inside** of PVC lab for TS1 and TS2 modes -The globe is displayed correctly on spatial search page from **outside** of PVC lab for TS1 and TS2 modes			

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#	Test Item/Section Heading	Expected Results	P	F	NT

2.	Verify that accesses to the DPL Web Access from inside and outside of PVC lab **using "non-u' interface** for TS1 and TS2 modes are successful only on the ports designated for TS1 and TS2.
	
	Access the DPL Web Access for TS1 and TS2 modes from inside and outside of PVC lab using:
	  - TS1: p2dps01.pvc.ecs.nasa.gov:<TS1 Port#>/<MODE>/home
	  - TS2: p2dps01.pvc.ecs.nasa.gov:<TS2 Port#>/<MODE>/home.
	
	Display the globe on spatial search page from outside of PVC lab for TS1 and TS2 modes using the above URLs.
		-The access to the DPL Web Access from **inside** PVC lab for TS1 and TS2 modes is successful.
		
		-The access to the DPL Web Access from **outside** PVC lab for TS1 and TS2 modes is denied.
		
		- Unable to display the globe from **inside** of PVC lab for TS1 and TS2 modes
		
		- Unable to display the globe from **outside** of PVC lab for TS1 and TS2 modes			

3.	Verify that access to the DPL Web Access from the outside and inside of PVC lab **using "u' interface** for OPS mode is successful only on the ports designated for OPS mode. Access the DPL Web Access for OPS mode from inside and outside of PVC lab using the following URL: - p2dps01u.ecs.nasa.gov:<OPS Port#>/<MODE>/home). Display the globe on spatial search page from outside and inside of PVC lab for OPS mode using the above URL.	- The access to the DPL Web Access from **inside** PVC lab for OPS mode is successful. - The access to the DPL Web Access from **outside** PVC lab for OPS mode is successful. - The globe is displayed correctly on spatial search page from **inside** of PVC lab for OPS mode. -The globe is displayed correctly on spatial search page from **outside** of PVC lab for OPS mode.			
4.	Verify that access to the DPL Web Access from the outside and inside of PVC lab **using "non-u' interface** for OPS mode is successful only on the ports designated for OPS mode. Access the DPL Web Access for OPS mode from inside and outside and inside of PVC lab using the following URL: - p2dps01.pvc.ecs.nasa.gov:<OPS Port#>/<MODE>/home). Display the globe on spatial search page from outside and inside of PVC lab for OPS mode using the above URL.	- The access to the DPL Web Access from **inside** PVC lab for OPS mode is successful. - The access to the DPL Web Access from **outside** PVC lab for OPS mode is denied. - Unable to display the globe from **inside** of PVC lab for OPS mode. - Unable to display the globe from **outside** of PVC lab for OPS mode			

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#	Test Item/Section Heading	Expected Results	P	F	NT
5.	Verify that all the elements in the Tomcat Web Application Manager are working properly if it is accessed from inside of PVC lab. - Bring up a browser form inside of firewall - Access the Tomcat Web Application Manager from the inside of PVC lab (p2dps01.pvc.ecs.nasa.gov:<Private Port#>/manager/html) - stop the tomcat. - Start the tomcat. - Reload the tomcat. - Can access the order page (p2dps01.pvc.ecs.nasa.gov:<Private Port#>/OPS/order)	- All the elements (stop, start and reload functions) are working properly in the Tomcat Web Application Manager except the spatial search page - Unable to display the globe from inside of PVC lab for OPS mode.			
6.	Verify that the user is unable to access the Tomcat Web Application Manager from **outside** of the PVC lab (firewall) using either **"u" interface or "non-u" interface** -Bring up a browser form outside of firewall -p2dps01u.ecs.nasa.gov:<Private Port#>/manager/html -p2dps01.pvc.ecs.nasa.gov:<Private Port#>/manager/html	-The access to the Tomcat Web Application Manager is denied from outside of PVC lab using "u" interface. -The access to the Tomcat Web Application Manager is denied from outside of PVC lab using "non-u" interface.			
7.	Verify that the user is unable to access the Tomcat Web Application Manager from public ports: <OPS Port#>, <TS1 Port#>, and <TS2 Port#> in the PVC lab. -p2dps01.pvc.ecs.nasa.gov:<OPS Port#>/manager/html -p2dps01.pvc.ecs.nasa.gov:<TS1 Port#>/manager/html -p2dps01.pvc.ecs.nasa.gov:<TS2 Port#>/manager/html	The access to the Tomcat Web Application Manager is denied from public ports: port# <OPS Port#>, <TS1 Port#>, and <TS2 Port#> in the PVC lab.			
8.	Verify the password in tomcat-users.xml has been encrypted: # cd /usr/ecs/OPS/COTS/tomcat/conf # cat tomcat-users.xml	The passwords stored in this file are not clear text.			